

Amendments to the Claims

1. (*Currently Amended*) A vertical trench-gate semiconductor device comprising
_____ a semiconductor body (2) having a top major surface (2a), and
_____ a plurality of trench-gates comprising trenches (6,6') extending into the
semiconductor body from the top major surface with insulated gate electrodes (4) therein,
_____ the semiconductor body comprising source and drain regions (8,12) of a first
conductivity type which are separated by a channel-accommodating region (10) of a
second, opposite conductivity type adjacent the trench-gates, wherein
_____ the trench-gates extend in stripes,
_____ the source regions extend transversely between the trench-gates in stripes,
projection (20) of the source stripes across the trench-gates defines intermediate trench
portions (22) between the projected source stripes, and mutually spaced regions (14,14')
of the second conductivity type are provided immediately below the intermediate trench
portions (22) which are connected to source potential.

2. (*Currently Amended*) ~~A device of Claim 1~~ The vertical trench-gate semiconductor device as recited in claim 1, wherein each spaced region (14,14') extends from the channel-accommodating region (10).

3. (*Currently Amended*) ~~A device of Claim 2~~ The vertical trench-gate semiconductor device as recited in claim 2, wherein each spaced region (14,14') extends from the channel-accommodating region (10) on one side of the trench to meet the channel-accommodating region on the other side of the trench.

4. (*Currently Amended*) ~~A device of any preceding Claim~~ The vertical trench-gate semiconductor device as recited in claim 1, wherein the depth of each trench (6') oscillates along its length between depths above and below the lower boundary (10a) of the channel-accommodating region (10), such that the second conductivity type region that provides the channel-accommodating region extend periodically below the trench to form the space regions (14').

5. (*Currently Amended*) A method of manufacturing a vertical trench-gate transistor semiconductor device of Claim 4 comprising the steps of:

(a) forming a first mask (30) over the top major surface (2a) of the semiconductor body (2) defining a striped pattern of windows;

(b) introducing dopant of the first conductivity type for the source region (8) into the semiconductor body via the windows (32) of the first mask;

(c) forming a second mask (34) over the top major surface (2a) of the semiconductor body defining a striped pattern of windows (36) which extend transversely to the striped windows (32) of the first mask (30);

(d) introducing an etchant via the windows (36) of the second mask (34) to form trenches (6) in the semiconductor body (2), the etchant being selected to etch both the semiconductor body and the first mask material, such that the resulting trenches are deeper than the lower boundary (100) of the channel-accommodating region (10) in the finished device within the lateral extent (L) of the first mask windows (32) and shallower than said lower boundary between the first mask windows.

6. (*Currently Amended*) A method of Claim 5 wherein the etchant etches the first mask material more slowly than the semiconductor body (2).

7. (*Currently Amended*) A method of manufacturing a vertical trench-gate transistor semiconductor device of Claim 4 ~~comprising the steps of~~ comprising the steps of:

_____etching grooves of uniform depth into the semiconductor body (2), and
_____selectively etching portions of the grooves, such that the resulting trenches (6) are deeper than the lower boundary (100) of the channel-accommodating region (10) in the finished device within the lateral extent (L) of the source region stripes (8) and shallower than said lower boundary between the source region stripes.

8. (*Currently Amended*) A method of manufacturing a vertical trench-gate transistor semiconductor device of ~~any of Claims 1 to 3 having trenches (6)~~ of Claim 1 having trenches of substantially uniform depth, ~~comprising the steps of~~ comprising the steps of:

_____forming a mask over the top surface of the semiconductor body; and
_____introducing dopant of the second conductivity type through the windows of the mask for the spaced regions (14).